

Appl. No. 10/766,738
Amdt. dated November 9, 2006
Reply to Office action of August 9, 2006

In the Specification:

Replace paragraph 0024 with the following paragraph:

where t designates time, I designates a measure for the scent strength measured quantitatively with a sensor of a known electronic nose, α designates a ~~time~~ decay rate constant depending on the volatile components) of a scent, and η designates an unknown function taking into account all external parameters ζ such as temperature, atmospheric pressure, distance to the object, etc., for which the evolution versus time is not necessarily known.

Replace paragraph 0028 with the following paragraph so as to delete the original equation and replace it with a new equation:

The ratio σ of the two measurement signals depends only on the time and on decay constants given by each sensor:

$$\begin{aligned}\sigma &= \frac{I_1(t, \xi(t))}{I_2(t, \xi(t))} = \sigma_0 \cdot e^{(\alpha_1 - \alpha_2)t} \\ \underline{\sigma} &= \underline{\frac{I_2(t, \xi(t))}{I_1(t, \xi(t))}} = \underline{\sigma_0 \cdot e^{(\alpha_1 - \alpha_2)t}},\end{aligned}\tag{2}$$

Replace paragraph 0031 with the following paragraph:

The decay rate constants α_1 and α_2 can be determined, for example during a learning step or a characterization step of the system, by measuring the scent intensity versus time of the corresponding volatile components when recorded with the sensors of the system. Decay rate ~~Time~~ constants α_1 and α_2 are related to the half time $\tau_{\frac{1}{2}}$ of the used scents, i.e., the duration in

which the respective signal strengths of the corresponding sensors are divided by two, by the following formula:

$$\alpha = \frac{\ln(2)}{\frac{\tau_1}{2}}$$

Replace paragraph 0042 with the following paragraph:

However, in a preferred embodiment, the age is calculated by applying formula (3) to the measured ratio. This renders the system more versatile. Indeed, the same formula can be used for measuring ages on the basis of different pairs of scents. It is sufficient to change the two decay rate constants α_1 and α_2 (which are, in practice, registered numbers) with respect to the pairs of scents to which the system is responsive. The initial reference ratio σ_0 is then preferably registered during a time initialization step by the user.

Replace the text of the Abstract beginning at page 13, line 4, with the following paragraph:

The invention concerns a method and system for determining the age of an object such as a product containing volatile components, comprising ~~the steps of~~: measuring a first strength of a first scent with a first electronic sensor, the decay rate constant of the said first scent being known; measuring simultaneously a second strength of a second scent with a second electronic sensor, the decay rate constant of the said second scent being known; calculating a current scent ratio (σ) of the two scent strengths; and determining the age of the object from a reference time for which a reference scent ratio (σ_0) of the said-scent strengths has been registered.